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PROCEEDINGS  
OF  
THE ROYAL SOCIETY.

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1831-1832.

No. 7.

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November 17, 1831.

HIS ROYAL HIGHNESS THE DUKE OF SUSSEX, K.G.,  
President, in the Chair.

The following Papers were read. The first was entitled, "Researches in Physical Astronomy—'On the Theory of the Moon.'" By J. W. Lubbock, Esq. V.P. and Treasurer of the Royal Society.

This paper is a continuation of the author's former paper on the same subject, in which he gives the developments which are required in the second approximation, or that in which the square of the disturbing force is retained.

The author has not yet attempted to obtain numerical results, but he considers this method of solution equally advantageous with the method hitherto adopted, and that the calculation which would tend to perfect the tables of the moon is a desideratum in physical astronomy.

The author has obtained numerical results in the first approximation ; the value of the variation agrees within a few seconds with the result of Newton in the third volume of the *Principia*.

The next paper was entitled, "On the Tides," by the same.

This paper contains tables of the results of observations made at Brest, with regard to the principal inequality of the tides, or that which is independent of the parallaxes and declinations of the moon and sun, and depends solely on the moon's age, that is, on the time of her passage through the plane of the meridian ; from which it appears that the tables of the tides for London are not applicable to Brest, by merely changing the *establishment*, that is, by adding a constant quantity, as has been hitherto supposed ; and the same remark applies to any distant parts.

The third paper was entitled, "On the Structure of the Human Placenta and its connection with the Uterus." By Robert Lee, M.D. F.R.S. Physician to the British Lying-in Hospital.

In the year 1780 Mr. John Hunter presented a paper to the Royal Society, in which he laid claim to the discovery of the true structure of the placenta, and of its vascular connections with the uterus. From